

We claim:

1. A preparation of red blood cells that has a P_{50} of greater than 30 mm Hg and the right shift is substantially stable.

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2. The preparation of red blood cells of Claim 1, wherein the P_{50} is greater than 35 mm Hg.

10 3. The preparation of red blood cells of Claim 1, wherein the P_{50} is greater than 40 mm Hg.

4. The preparation of red blood cells of Claim 1, wherein the P_{50} is greater than 45 mm Hg.

15 5. The preparation of red blood cells of Claim 1, wherein the P_{50} is greater than 50 mm Hg.

6. The preparation of red blood cells of Claim 1, wherein the P_{50} is substantially stable over a period of 3 days.

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7. The preparation of red blood cells of Claim 1, wherein the P_{50} is substantially stable over a period of 7 days.

25 8. The preparation of red blood cells of Claim 1, wherein the P_{50} is substantially stable over a period of 21 days.

9. The preparation of red blood cells of Claim 1, wherein the volume of red blood cells is a unit.

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10. A preparation of cells that contain a therapeutic agent.

35 11. The cells of Claim 10, wherein the cells are platelets, red blood cells and white blood cells.

12. The cells of Claim 10, wherein the therapeutic agent are antibiotics, smooth muscle inhibitors, antiangiogenic agents, antifungal agents, antiviral agents, or chemotherapeutic agents.

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13. A preparation of red blood cells that has a P_{50} of greater than 30 mm Hg and the right shift is substantially stable made by the process of electroporating biological particles in a flow electroporation chamber, comprising:

10 a. providing biological particles in a solution to an apparatus for poration of biological particles, the apparatus comprising walls defining a fluid flow path, and electrodes disposed along opposing sides of said fluid flow path, said electrodes including means for placing said electrodes in electrical communication with a source of electrical energy; and

15 b. subjecting the biological particles to an electrical field comprising a series of electrical pulses wherein each pulse has alternating polarity.

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